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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Eiichi Takahashi

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STAAS & HALSEY LLP

SUITE 700

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WASHINGTON, DC 20005

EXAMINER

LAZARO, DAVID R

ART UNIT

PAPER NUMBER

2155

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

03/29/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/800,488	TAKAHASHI ET AL.	
	Examiner	Art Unit	
	David Lazaro	2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the RCE filed 03/05/2007.
2. Claims 1, 8 and 9 were amended.
3. Claims 10-14 are canceled.
4. Claims 1-9 are pending in this office action.

Response to Amendment

5. Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 1-9 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.
8. Claims 1-7 are directed towards a load detection method. Reviewing claim 1, the scope of claim 1 covers a 35 U.S.C. 101 judicial exception. Particularly, the subject matter is directed to the abstract idea of "judging...that said server is under a high load". For claims including such excluded subject matter to be eligible for patent protection, the claim must be for a practical application of the abstract idea. However, claim 1 is not directed towards a practical application of the abstract idea. No real-world

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final result occurs from judging that the server is under a high load. As such, Claim 1 does not have a useful, concrete and tangible result and is therefore not directed to a practical application of the judicial exception. Claims 2-7, which depend on claim 1, do not resolve this issue. For these reasons, claims 1-8 are directed to non-statutory subject matter.

9. Claim 8 is directed towards a load detection method. The scope of claim 8 covers a 35 U.S.C. 101 judicial exception. Particularly, the subject matter is directed to the abstract idea of "judging...that said server is under a high load". For claims including such excluded subject matter to be eligible for patent protection, the claim must be for a practical application of the abstract idea. However, claim 1 is not directed towards a practical application of the abstract idea. No real-world final result occurs from judging that the server is under a high load. As such, Claim 8 does not have a useful, concrete and tangible result and is therefore not directed to a practical application of the judicial exception. For these reasons, claim 8 is directed to non-statutory subject matter.

10. Claim 9 is directed towards a load detection system. The scope of claim 9 covers a 35 U.S.C. 101 judicial exception. Particularly, the subject matter is directed to the abstract idea of "load detection means for detecting a high load of said server". For claims including such excluded subject matter to be eligible for patent protection, the claim must be for a practical application of the abstract idea. However, claim 1 is not directed towards a practical application of the abstract idea. No real-world final result occurs from detecting a high load of a server. As such, Claim 9 does not have a useful,

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concrete and tangible result and is therefore not directed to a practical application of the judicial exception. For these reasons, claim 9 is directed to non-statutory subject mater.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. Claims 1, 2, 8 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 5,987,493 by Rangan et al. (Rangan).

13. With respect to claim 1, Rangan teaches a network server load detection method comprising:

monitoring a communication between a client and a server, the communication being from the client to the server (Col. 2 lines 12-32), and the communication including at least one connection having a communication data size (Col. 3 lines 41-52);

detecting a change in the communication data size of the connection of the client and server (Col. 3 line 53 - Col. 4 line 5);

recording a maximum size value of the communication data size (Col. 3 line 53 - Col. 4 line 5 - historical data would include maximum data sizes); and

judging, if the detected change of the communication data size of the connection decreases below a predetermined proportion of the recorded maximum size value, that said server is under a high load (Col. 3 line 53 - Col. 4 line 16).

14. With respect to Claim 2, Rangan further teaches counting a number of connections including the at least one connection and the communication data size until a monitored count of communications reaches a monitored communication minimum count and until a count time reaches a monitor minimum time (Col. 3 line 53 - Col. 4 line 5).

15. With respect to Claim 8, Rangan teaches a network server load detection method comprising:

monitoring a communication between a server and a client, the communication being from the server to the client (Col. 2 lines 12-32), and counting a receivable data size and a connection count of which said server notifies said client (Col. 3 lines 41-52);

obtaining the receivable data size per connection as a server load (Col. 3 line 53 - Col. 4 line 5);

storing a maximum value of the receivable data size per connection, and judging, if the receivable data size per connection becomes small with respect to the maximum value, that said server is under a high load (Col. 3 line 53 - Col. 4 line 16).

16. With respect to Claim 9, Rangan teaches a network server load detection system for monitoring a communication between a client and a server, the communication being from the client to the server (Col. 2 lines 12-32), and detecting a load state of said server, comprising:

data size calculating means for calculating a size of communication data per connection (Col. 3 line 53 - Col. 4 line 5);

storage means for detecting a change in the communication data size per Connection of the client and server, and storing a maximum value (Col. 3 line 53 - Col. 4 line 5 - historical data would include maximum data sizes); and

load detection means for detecting a high load of said sewer when the detected change of the communication data size per connection at that point of time becomes smaller than a predetermined proportion of the maximum value (Col. 3 line 53 - Col. 4 line 16).

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claims 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ragan in view of U.S. Patent 5,400,329 by Tokura et al. (Tokura).

19. With respect to Claim 3, Ragan teaches all the limitations of Claim 1, further comprising recognizing communications of a start and end of the connection (Col. 2 lines 47-53 - recognizes sessions)

Ragan does not explicitly disclose excluding data sizes of the start and end of the connection from the calculation load. Tokura teaches that packets of small size can be ignored for congestion calculations (Col. 12 lines 4-8).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the method disclosed by Ragan and modify it as indicated by Tokura such that the method further comprises excluding data sizes of the start and end of the connection from the calculation load since the SYN and FIN packets are of small data size. One would be motivated to have this as it simplifies calculations while retaining a high degree of accuracy (In Tokura: Col. 2 lines 43-64, Col. 12 lines 4-8 and Col. 25 lines 22-33).

20. With respect to Claim 5, Ragan teaches all the limitations of Claim 1, further comprising obtaining a distribution of the communication data sizes from said clients (Col. 3 line 53 - Col. 4 line 5)).

Ragan does not explicitly disclose distinguishing between extremely small pieces of communication data unrelated to the load of the server from the communication data size distribution; and eliminating the extremely small pieces of communication data from the judgment about the load. Tokura teaches distinguishing extremely small pieces unrelated to the load of the server and eliminating them from calculations related to congestion (Col. 12 lines 4-8).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the method disclosed by Ragan in view of Jacobson and modify it as indicated by Tokura such that the method further comprises distinguishing

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between extremely small pieces of communication data unrelated to the load of the server from the communication data size distribution; and eliminating the extremely small pieces of communication data from the judgment about the load. One would be motivated to have this as it simplifies calculations while retaining a high degree of accuracy (In Tokura: Col. 2 lines 43-64, Col. 12 lines 4-8 and Col. 25 lines 22-33).

21. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ragan in view of U.S. Patent 6,104,717 by Coile et al. (Coile).

22. With respect to Claim 4, Ragan teaches all the limitations of Claim 1, but does not explicitly disclose retaining information of the communication of the start of connection till the connection is ended or established; detecting the communication of the start of the connection for re-connection executed when judging that said client fails to connect on the basis of the information retained; and setting a rate at which the communication of the re-connection occupies the number of the communications of the start of connection as a load of said server and, if this rate is high, judging that said server is under the high load.

Coile teaches retaining information of the communication of the start of connection till the connection is ended or established (Col. 9 line 66-Col. 10 line 36); detecting the communication of the start of the connection for re-connection executed when judging that said client fails to connect on the basis of the information retained (Col. 9 line 66-Col. 10 line 36); and setting a rate at which the communication of the re-connection occupies the number of the communications of the start of connection as a

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load of said server and, if this rate is high, judging that said server is under the high load (Col. 10 lines 36-55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the method disclosed by Ragan and modify it as indicated by Coile such that the method further comprises retaining information of the communication of the start of connection till the connection is ended or established; detecting the communication of the start of the connection for re-connection executed when judging that said client fails to connect on the basis of the information retained; and setting a rate at which the communication of the re-connection occupies the number of the communications of the start of connection as a load of said server and, if this rate is high, judging that said server is under the high load. One would be motivated to have this, as it provides a reliable determination of the load on a given server (In Coile: col. 2 lines 10-34).

23. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ragan and in further view of U.S. Patent 6,219,712 by Mann et al. (Mann)

24. With respect to Claim 6, Ragan teaches all the limitations of Claim 1, but does not explicitly disclose obtaining a sequence number from the communication to said server from said client; retaining a maximum value of the sequence number till the connection is ended since the start of connection; comparing the sequence number of the communication received with the sequence number retained; and excluding, if the

sequence number obtained from the communication is smaller than the sequence number retained, this communication from counting.

Mann teaches obtaining a sequence number from the communication to said server from said client; retaining a maximum value of the sequence number till the connection is ended since the start of connection; comparing the sequence number of the communication received with the sequence number retained: and excluding, if the sequence number obtained from the communication is smaller than the sequence number retained, this communication from counting (Col. 16 lines 18-39).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the method disclosed by Ragan and modify it as indicated by Mann such that the method further comprises obtaining a sequence number from the communication to said server from said client; retaining a maximum value of the sequence number till the connection is ended since the start of connection; comparing the sequence number of the communication received with the sequence number retained: and excluding, if the sequence number obtained from the communication is smaller than the sequence number retained, this communication from counting. One would be motivated to have this, as it is important to account for delayed communications in order to keep congestion detection up to date (In Mann: Col. 16 lines 51-67 and Col. 18 lines 16-32).

25. With respect to Claim 7, Ragan teaches all the limitations of Claim 6, further comprising: counting, if the sequence number obtained from the communication is smaller than the sequence number retained, the communication data after executing a


weighting process thereon, or predicting a communication data size when there is no problem on a route from the two sequence numbers, and counting the predicted data size for detecting the load (In Mann: Col. 18 line 4-32).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Lazaro whose telephone number is 571-272-3986. The examiner can normally be reached on 8:30-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on 571-272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


David Lazaro
March 26, 2007


SALEH NAJJAR
SUPERVISORY PATENT EXAMINER